

Archives and Airtable: Using Cloud-based Tools for Archival Survey and Workflow Management

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The Special Collections and University Archives Department (SCUA) at the University of Nevada, Reno (UNR) began operation in 1961 as a repository for the many unique resources already held by the University. This included University history and northern Nevada historical materials not collected by the Nevada Historical Society. Some of the department's earliest collections cover Comstock mining and milling companies as well as Nevada politicians, local associations, and modern authors' research files. Department holdings over the years have grown to include more than 2,000 cataloged and fully accessible manuscript and archival collections, as well as 131,000 photographs, 1,110 architectural drawings, 28,000 published materials, and 25,000 digital collections objects. Although many of these materials are already available to the public, SCUA faces many of the same challenges as other archives across the country, including a backlog (Greene and Meissner 2005).

A number of changes over the last four years, including the implementation of Archivists Toolkit (AT) and PastPerfect for the description, cataloging, and tracking of manuscript, archival, and photographic collections, prompted us to take a closer look at our holdings. We wanted to gain a greater understanding of the backlog while at the same time identifying physical storage locations of all materials. In June 2017, SCUA, with the assistance of the University Libraries Metadata and Cataloging Department (MCD), undertook a survey of all physical holdings, including maps, books, manuscript and archival collections, and photographs. In order to accomplish these tasks, we needed a tool that enabled us to capture an enormous amount of data in a quick and efficient manner.

Before evaluating tools, we created a list of what we wanted from the tool we chose.

The list included:

- Concurrent access by multiple individuals
- Cloud-based
- Customizable
- Ability to export data
- Free or low cost
- Easy to use
- Ability to create forms for easier data input

After evaluating a number of tools, discussed in further detail in the following sections, we decided to use a product called Airtable to complete our survey. Throughout the project, the adaptability of the tool became evident, and inspired us to use the tool for a variety of other projects. This includes tracking the cataloging workflow between SCUA and MCD, collecting information from curators about new acquisitions, project management for students, and submission of name authority records to the specialist in MCD.

Airtable vs. Other Tools

At the beginning of the survey, one of our goals was to capture metadata on the physical locations of SCUA materials to determine whether they were part of the backlog. Materials not described in finding aids, catalog records, or other online forms leave collections hidden from the public and virtually inaccessible (Santamaria 2015). In order to capture clear and consistent metadata, we planned to use Describing Archives: A Content Standard (DACS) for collection descriptions in addition to local fields about the physical state and location of the materials. Therefore, we required a customizable tool that we could tailor to our specific needs.

When we began looking at tools for capturing metadata, the first consideration was ease of access and cost. We first considered Microsoft Excel and Access because the University

provides the software on our networked computers. However, it soon became apparent that the inventory needed to be accessible by multiple people, sometimes simultaneously. Completing a comprehensive inventory would be a highly involved and time-consuming undertaking that would require multiple people working at the same time. Limited access to a single spreadsheet seemed highly inefficient for a project of this size and caliber. Earlier in 2017, our university moved to the cloud-based Microsoft Office 365, which allowed us to share online Excel files; however, this still would not permit multiple concurrent users.

Additionally, since we were working with rare and sometimes fragile materials, we wanted the ability to go to the materials rather than move them to a desk or work station. We hoped to utilize a laptop or mobile device to work in the areas where the materials are stored. With these needs in mind, we began looking at free online options that had apps or mobile functionality, such as Google Docs, Simple Spreadsheet, and Airtable. All of these options would allow us to capture metadata online and export the data as needed.

Another factor we took into consideration was the ability to generate forms. Forms, created using a series of questions with required answers that feed into a master spreadsheet, help prevent a user from accidentally skipping over a field, typing in the wrong row or column, and are generally more user-friendly than spreadsheets. For non-technical users, the presence of copious amounts of data can cause information to be entered into the wrong row or column. Additionally, because we are asking for specific metadata, shorthand field names displayed in the spreadsheet can be confusing. A natural-language question, such as “Estimated date range” or “What is the start date and end date of the collection?” compared to the shorthand “Date Expression,” is more useful to a surveyor. Form creation also allowed us to create a form specific to each material type. This means that a person capturing information about maps would only see questions relevant to maps, rather than navigating through a myriad of fields not applicable to their material.

Beyond customizable forms, we needed the ability to customize fields to capture all of the required metadata, since materials in SCUA often vary greatly in format and content. We also wanted the ability to create different field types, such as checkboxes, preset multiple

choice fields, or simple text fields. This control leads to better data entry and consistent, standardized metadata. Of the online tools we compared, it became apparent that Airtable offered the greatest ability to customize fields in a spreadsheet.

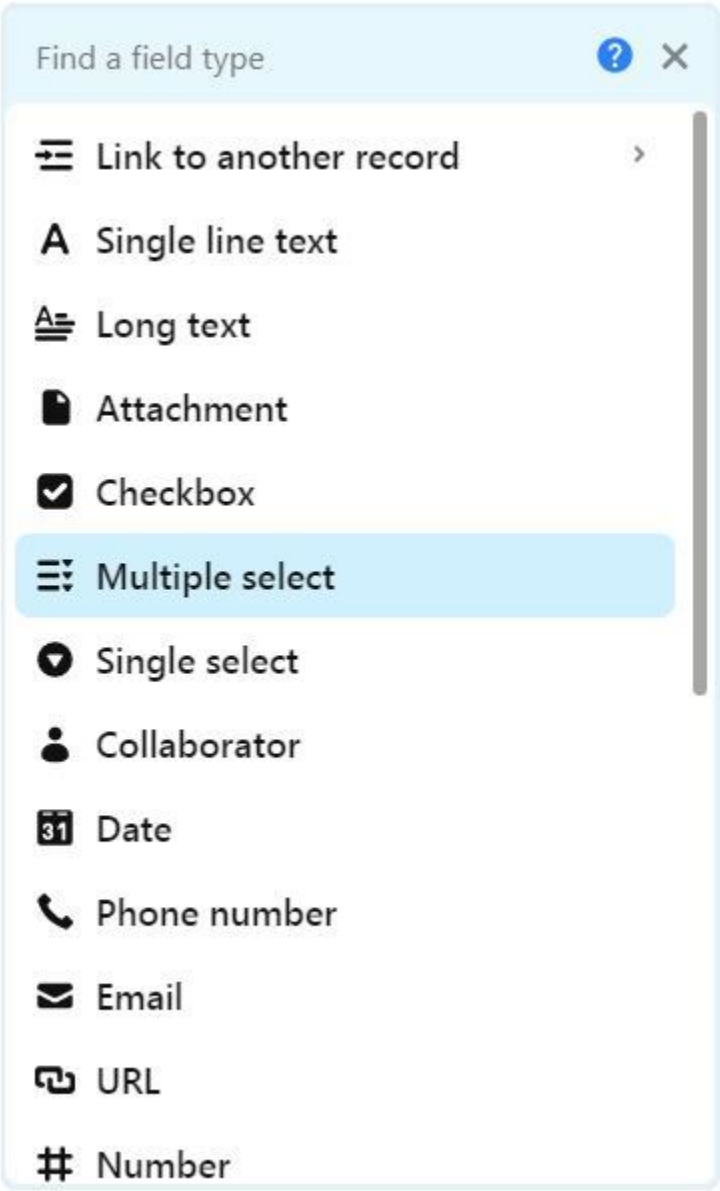


Figure A: Some of the options for customizing fields.

After evaluating all of our options, we decided that Airtable met the criteria on our list and contained additional features useful for viewing or entering metadata. In Airtable, each

database created begins with a base, and each base contains tables (a sheet in an Excel workbook is the equivalent to a table in a base). Airtable allows linking of multiple tables, which is one of the features we liked. We used this feature to create an authority file in a separate table that contained authorized terms or names. As an example, instead of manually entering university department names into a creator field, we created a separate table in the base that contains all department names in use. When a surveyor needs to add a department name to a record, they search that linked table and attach the appropriate name. Another example of using linked tables is for storage location codes. We created a table of all location codes we knew we needed and linked to that instead of keying in each location; this reduced the risk of mistyping location codes.

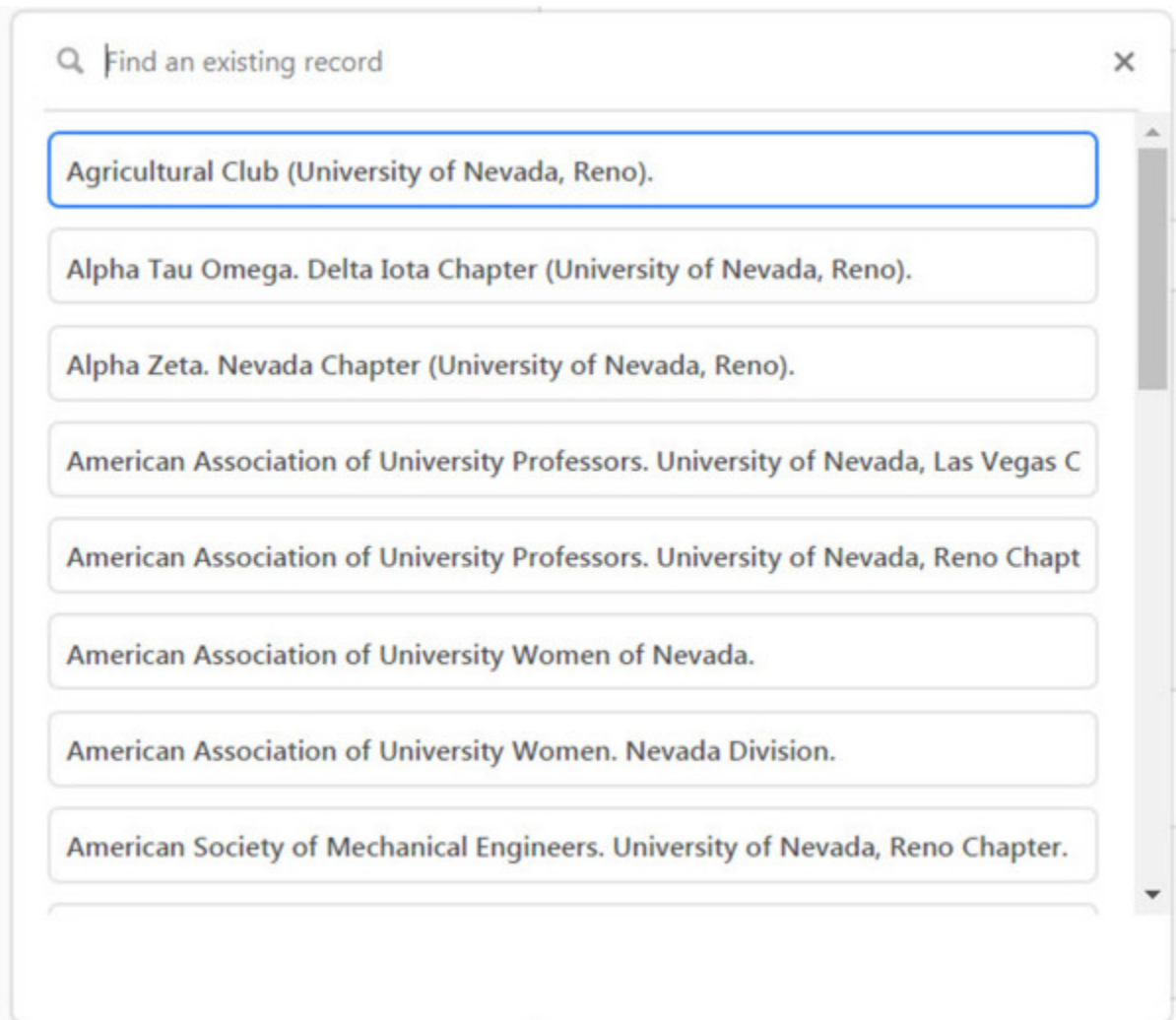


Figure B: The table containing authorized department names.

As in most spreadsheets, each row represents a single record. What is different about Airtable is that users can expand records into a pop-up box that displays the information contained in that row without having to tab across cells. For non-technical users, this is advantageous because of data entry concerns mentioned in the above paragraphs (i.e., accidentally entering metadata into the wrong row or column). In the expanded view, the database automatically captures the history of a record, so any changes or updates made by a surveyor are recorded in the revision history.

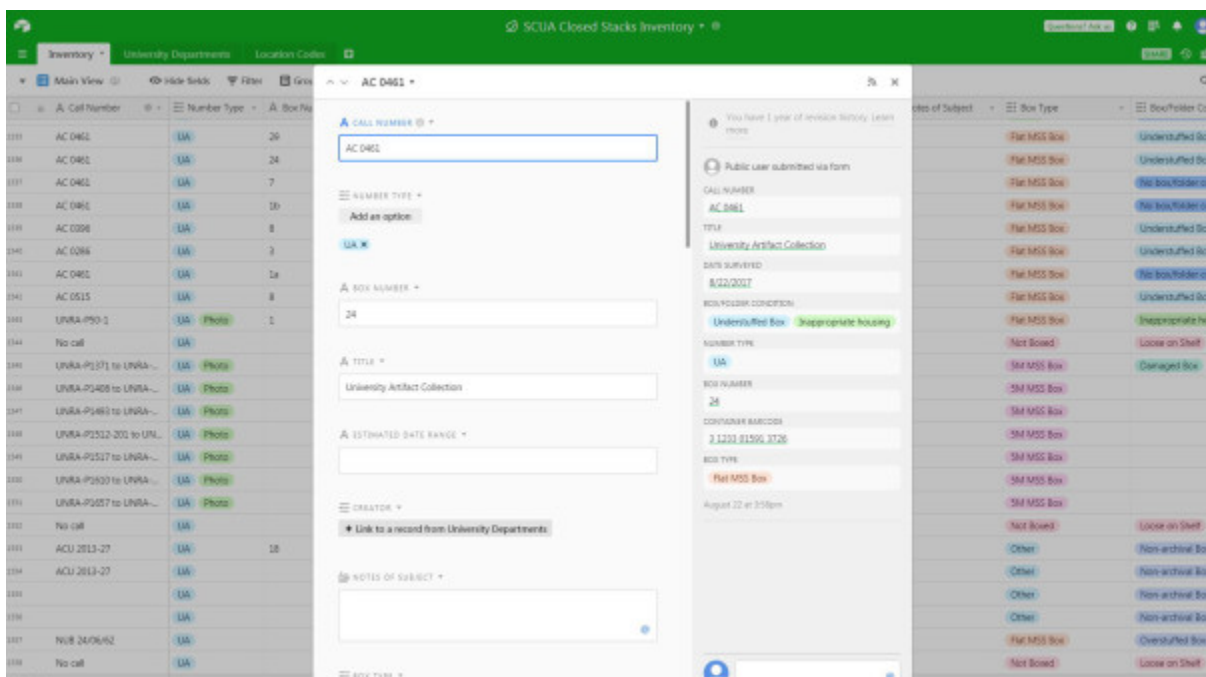


Figure C: An expanded record.

One of the unique aspects of Airtable is the ability to create different views of the table for data visualization. This allowed us to create a view that can display all fields or isolate other specific ones. For instance, if a SCUA student assistant needs to know title, call number, location, and box type in order to retrieve materials, we can create a view with just those fields rather than forcing the student to sort through all of the data in the table. There are a number of functions for sorting and organizing metadata, including grouping and filtering. Most spreadsheets and databases have a filtering function; however, the grouping function clusters

together records based on a field. This made it easy for a surveyor to identify specific information, such as collections marked as needing re-boxing or that contain multi-media materials.

▶ Flat MSS Box	BC	Count 1130
▶ Map Case Folder		Count 180
▶ Index Card Box	BOX	Count 1
▶ Shoe Box	BOX TYPE	Count 6
▶ Ledger	BOX TYPE	Count 418
▶ Sheet	BOX TYPE	Count 14
▶ Microfilm	BOX TYF	Count 130
▼ Reel Case	BOX TYPE	Count 29

Figure D: Grouping based on box type.

Once we created our base and began our survey, we quickly realized that we would reach the max records per base with the free Airtable account. This restriction is perhaps one of

the few limitations of using Airtable. Airtable has a pricing plan that allows users to create a free account or a tier-based paid account. All users can create an unlimited number of bases, so initially we thought that we could create a different base for each type of material (e.g. maps, manuscript/archival collections, photographs). However, after discussing the various pros and cons of this, we decided having all the metadata in one place was more efficient. We worked with our administrative office to upgrade our plan to a paid account in order to create one base for the physical survey of all materials.

Overall, we have been very pleased with the functionality of Airtable. Using this tool made it possible to focus on conducting the survey rather than spending time training non-technical users. The ability to create different views to facilitate effective collaboration with curators and student assistants is one of our favorite aspects of Airtable. The structure of the base, tables, and records made it easy to capture clean metadata, which we can export for reuse in future projects. Having simple forms and straightforward fields made it easy to use with minimal training for project collaborators who may not be proficient database users.

Airtable Beyond the Survey

Collection Tracking for Cataloging

Inspired by Airtable's multi-functionality, we decided to explore managing a new workflow for handling unprocessed collections. For this, we created a new base in which we could assign multiple users and display the information in a Kanban view. Kanban, developed in Japan as an inventory control system, uses cards or boards as a way to track information. It visualizes project workflow and spotlights bottlenecks as they occur (Brechner 2015).

As we worked on the survey, we anticipated it would reveal unprocessed collections. Currently, SCUA processes collections and makes them physically available and the Metadata and Cataloging Department is responsible for reviewing metadata and making collections accessible online. There are several access points for collections: online EAD-XML finding aids, MARC records in the local catalog, and MARC records submitted to OCLC. We created a base in Airtable that included all steps in the workflow, from accession to physical storage in the department, and processing to creating a MARC record for the public catalog.

This workflow involves a number of collaborators. Using the Kanban view allowed us to ascertain a collection's status and who was actively working on each step. Once a collection is ready to enter the workflow, the accessioning archivist in SCUA fills out a form that creates a record in the Collections Submitted to MCD base. As each responsible party finishes his or her part of the workflow, he/she moves the record to the next board. We chose to include completion date as one of the fields in order to create a sense of transparency and accountability. Prior to using Airtable, we occasionally struggled with knowing where a collection was in the workflow. This transparency gave those involved a greater sense of responsibility toward one another.

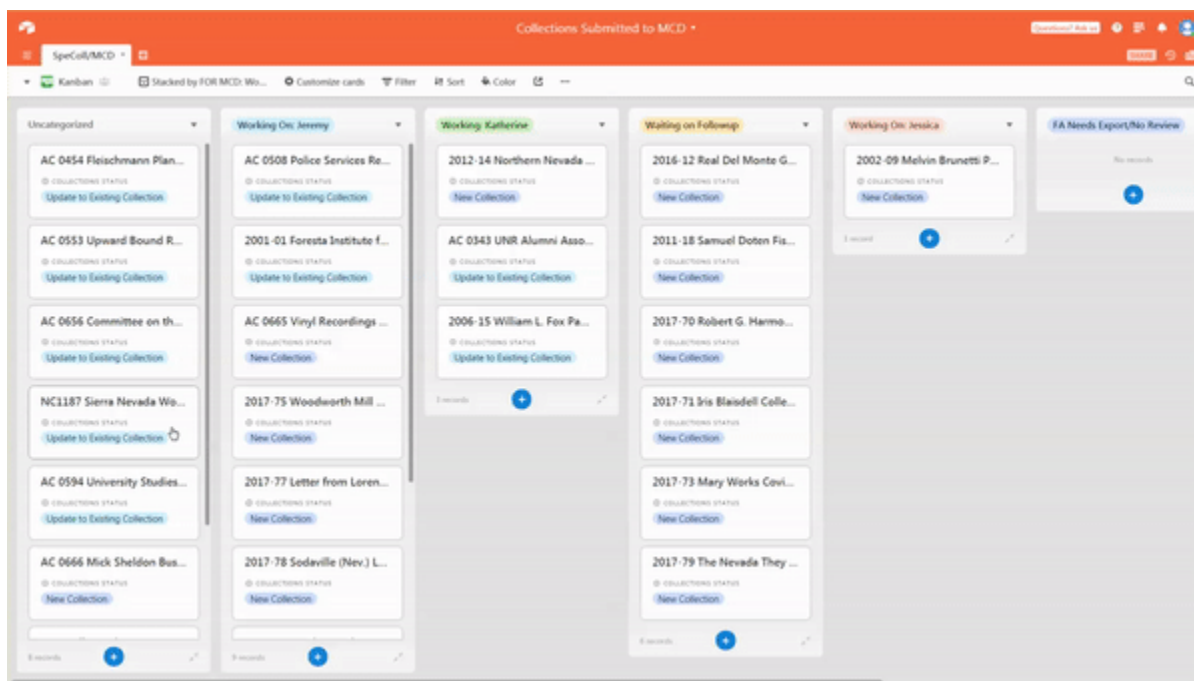


Figure E: Moving a record from one board to another.

Collaborators can also leave notes for each other in the record, reducing the number of emails containing important collection-related information sent to one another. Before using Airtable, emails would often end up buried in an inbox, which led to poor follow-through and missing collection records. Airtable does include an email notification system, but each collaborator can choose if they want to participate in it. Using the Kanban view in a specialized

base increased our efficiency, made communication more straightforward, and improved responsibility.

Collection Background Form

In September 2017, SCUA hired an accessioning archivist, a new position to the department. The addition of this position enabled the department to update accessioning procedures in order to streamline the cataloging process. Under the new workflow, the accessioning archivist is solely responsible for the creation of accession records. This shift in duties from the curators to the accessioning archivist created the need for a way to gather as much information from curators as possible about new collections. After a short discussion with the department Director, we decided to use Airtable as the tool to gather and store information about newly acquired collections.

Airtable, as described above, gave us the means to customize the database to our needs. In this instance, we knew we needed a form that not only allowed curators to convey information about the collections and donors as possible, but also a place to track required actions for each new accession, such as sharing Deeds of Gift with the University's Office of Development. We also knew that the database needed to be adaptable to various acquisition sources, including gift, transfer, and purchase, as each type of acquisition requires slightly different information. Knowing this, we created the Collection Background Form to share with the department curators.

The form used by the curators includes a number of fields that fall into four main sections: collection context, collection content, donor information, and additional notes and information. The first category focuses on contextual information about the collection, including temporary accession name and a preferred collection title, an accrual check box, number of boxes received, approximate collection dates, creator preferred and non-preferred name, secondary creators, information about the creators, and historical significance of the collection. This represents the majority of the form. The second category asks the curator about the general content of the collection, such as format (paper, flash drives, artifacts, etc.) preservation concerns, and known restrictions on the materials. The third section asks about

the donor, specifically who they are and how they are related to the collection. The final section provides a space for the curators to provide any additional information they may have collected during their interactions with the donor, including notes and emails.

MSS Gift Background Form

Form to be used for any collections acquired by SCUA as gifts
(Deed of Gift required)

Donor Name *

Donor's Relation to Collection *

Add an option

Donor Relation to Collection Explained

Gift Name *

A temporary informal name for the gift; often same as the collection title but not necessarily

Preferred Collection Title

What should this collection be called? Be as specific as possible so that the title is informative to researchers (use if the Collection Title is different from informal Gift Name)

Notes on Collection Title

Add details as to why a collection should be named the Preferred Title

UA Gift Background Form

Form to be used for any collections acquired by University Archives as gift or transfer from University department (Deed of Gift or Transfer Form required)

Donor Name (Department or Individual making the transfer; if unknown, make a guess or enter unknown) *

Donor's Relation to Collection *

(are they a secretary in the dept? did they create the records? if unknown enter Other)

Add an option

Donor Relation to Collection Explained

Gift Name *

A temporary informal name for the gift; often same as the collection title but not necessarily

Preferred Collection Title

What should this collection be called? Be as specific as possible so that the title is informative to researchers (use if the Collection Title is different from informal Gift Name)

Notes on Collection Title

Add details as to why a collection should be named the Preferred Title

Figure F, Figure G: A portion of the forms that are used to collect background information.

In addition to the form filled out by curators, the accessioning archivist uses three additional fields: date reviewed (filled out at the same time the official accession record in AT is created), donation type, and deed sent to development. These three fields, added after the curators began using the form, allow the accessioning archivist to keep better track of completed and remaining steps.

As previously discussed, we found the ability to create multiple, customizable forms that feed into one spreadsheet invaluable. For the Collection Background Form, this allowed the accessioning archivist to create separate forms for each type of donation source. Gifts, the most common source for Special Collections materials, contains fields related to individual donors. The transfer form, used almost exclusively by University Archives, contains donor fields that focus on University departments. In the future, the accessioning archivist will create a form tailored to purchases.

Having a one-stop database to track new collections and accruals brought in by multiple curators has helped the accessioning archivist stay organized. Although SCUA is not a large department, we do receive many small collections each year, many of which are accruals. The use of Airtable has given us a simple way to collect, store, and track information on our collections in an organized, easily accessible manner.

Name Authority Records Submission

In the spring of 2017, the Metadata and Cataloging Department participated in Name Authority Cooperative Program (NACO) training, which allows our library to contribute name authority records (NARs) to the national database. Knowing that SCUA contains a wealth of information on local individuals and organizations, MCD wanted to tap into that abundance, especially for newly acquired materials. Initially, no workflow existed for SCUA to submit information to MCD. MCD identified names long after SCUA submitted collections for MARC record completion. When SCUA did identify names to submit to MCD, they often did not contain complete information and required extensive follow-up by MCD staff. This created delays due to competing priorities and staff availability in both departments.

Inspired by the use of Airtable for the physical survey, we decided to collaborate with a new procedure beginning in fall 2017. We created another specialized base for NARs that included all necessary information for both personal and corporate names. As MCD specialists did not expect SCUA staff to know technical cataloging terms, MCD staff created two separate natural-language forms, one for personal names and the other for corporate names, to input data into the base. One benefit of the forms is that users can attach files, so SCUA staff can attach pertinent scans, such as birth certificates.

Personal Name Form

Suggest a name to add to the LCNAF

Creator Name [First, Middle, Last] *

Check the name in OCLC (if you have access). What did you find?

N/A if no name is found.

Check the name in Sierra. What did you find?

N/A if no name is found.

Check familysearch.org. What did you find (name, date of birth, family, etc.)?

Include link to record. Also make sure to include familysearch.org below where applicable.

How does the name appear in the collection? *

List all the different ways you have found while processing.

What is the most common form of the name you found in the collection? *

Are there any nicknames or other names they are commonly known by that are not found in the collection? Where did you find that or how do you know?

Cite any sources not in collection.

Birth and death dates? [include months and days if known; if unknown, skip.]

Cite all sources.

Place of birth? Place of death?

Cite any sources not in collection.

Where did they reside for most of their lives or careers?

Cite any sources not in collection.

Any other places where they did something significant?

Cite any sources not in collection.

Any important associated organizations, such as companies they worked for or founded?

Cite any sources not in collection.

Using plain language, what was their occupation?

Cite any sources not in collection.

What fields were they active in? This can include non-paid labor too.

Cite any sources not in collection.

Was this person a politician? NV state or Federal? What offices did they hold and when?

Cite any sources not in collection.

Gender?

Biography

Using data listed above, write a brief 1 or 2 sentence biographical sketch. Only include information substantiated above with a source.

Corporate Name Form

Suggest a name to add to the LCNAF

Company or Organization Name *

As full as possible

Is this a University of Nevada, Reno or State of Nevada entity?

i.e. It is a department or unit within one of these. Select if appropriate.

Does this company have a parent organization?

Please write it out, such as: University of Nevada Reno, College of Liberal Arts, Department of English.

How does the name appear on official documents?

Such as meeting minutes, reports, founding documents, and stationery.

How does the name appear on non-official documents?

What is the most common form of the name overall?

Did the company ever change its name? If so, what was it called before/after? What years did this change take place?

Cite any sources not in collection.

What year did the company start? If applicable, when did it stop operating?

Cite any sources not in collection.

Where is/was the company based?

State and city, if known. Cite any sources not in collection.

What type of company is it? What do they do?

Cite any sources not in collection.

What industry are they in?

Cite any sources not in collection.

Organizational History

Using data listed above, write a brief 1 or 2 sentence historical sketch. Only include information substantiated above with a source.

Attachments

Figure H, Figure I: Portions of the Name Authority forms.

MCD intended for SCUA to submit NAR data at the time of cataloging, since the collection information is fresh in their minds at that point. SCUA staff could harvest as much information as possible without having to revisit collections weeks or months after submitting records for cataloging. From the information submitted, the MCD NAR specialist determines if the name is a good candidate for a NAR. If SCUA staff did not provide an adequate amount of information for creation of the record, MCD staff submits follow-up questions via in-person meetings or over Airtable comments; if a record is determined as containing an insufficient amount of information, MCD staff notes it as such and leaves it in the queue for future review.

Knowing when SCUA submitted a record to MCD, any follow-up completed by MCD, and the current status of any names submitted for NAR review created the same type of accountability as using the Kanban for tracking collections submitted to MCD for cataloging. Although the workflow has only been in use for a few months, it has improved the quality of the metadata gathered by SCUA for use in NARs. The MCD specialist is able to create name authority records more efficiently than ever before. This workflow has also further opened up the lines of communication between SCUA and MCD.

The Future of Airtable

Project Management

SCUA and MCD employ a number of student assistants who are an essential part of department workflows. As we have implemented and altered workflows to more efficiently handle workloads, we discovered that our biggest challenge was tracking the progress of student projects. This was especially true for photograph processing projects due to the number of steps required to fully process a photograph collection. Yet again, we identified Airtable as the perfect tool to manage this workflow. We also realized that once we had a structure built for the photo processing workflow, we could adapt it for use with manuscript and archives processing projects by using a few of the already established fields.

To create this database, the accessioning archivist, MCD metadata specialist, and the Special Collections Photo Curator met to identify the numerous steps required in processing a photo collection. This included the arrangement, weeding, numbering, scanning, sleeving,

description, and thumbnail creation of the digital surrogate that the photo curator eventually uploads to our online photo database. After discussing required steps, we attempted to create a framework for how students would know which steps were necessary for each collection as well as how to track completion of those tasks. Finally, we took that framework and translated it to a new base in Airtable.

This workflow is still in the testing phase of development, but we hope to begin using it fully by the beginning of 2018.

Patron Customer Relationship Management

SCUA tracks patron use of collections through a paper-based Application and Use form. This form, filled out once per fiscal year by any patron using manuscript or archival materials, gives the department information on who is using the collections, where the researcher is from, topic of research, and a space to track what each patron used during that fiscal year. We also use a paper-based duplication form for our manuscript and archival collections. These two separate forms are necessary to our day-to-day operations, but can be difficult to quickly access and navigate. Each year, our student assistants transcribe the forms into a spreadsheet, which takes an immense amount of time and can be quite challenging.

In order to facilitate quicker access to patron data, we attempted to create a Customer Relationship Management (CMR) system for patron data using Airtable. We hope that this new CMR will replace the use of paper-based forms where patrons will only have to submit their information one time. For each subsequent visit, be it in that same fiscal year or three years in the future, we can locate and update their record to reflect that visit. We also anticipate using the form to track photocopy requests and another forms currently in paper-only format, such as the Digital Camera Use form.

Although we have not yet implemented this system, we created a prototype for testing in the near future.

Conclusion

When planning large projects of any type, it is important to take a moment to establish what kinds of tools and support are needed to complete the project in a timely manner. Before

we launched into our survey of department holdings, the first thing we did was identify our anticipated needs in tackling such a large and daunting project. The planning phase allowed us to investigate available tools and make an informed, logical decision on what would work best for us. Airtable has proved to be an invaluable tool, allowing us to expand its use from the survey to many other aspects of our work.

Many Airtable features directly supported our needs for the survey and beyond. Customizable bases built specifically to capture metadata according to national and local standards and the ability to create forms, tailored views, and linked tables made it easy for non-technical users to enter data. Our one concern with Airtable was the cost associated with using the paid version; for some institutions it could be prohibitive. Although we began our project thinking the free version would work for us, we decided that it would not be feasible for future long-term use. However, the adaptability and overall usefulness of the tool greatly outweighs the associated cost for us. The current and future uses of Airtable, including tracking all types of workflows, has improved accountability and made us more efficient at completing projects.

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